

We claim:

1. A method for making a high pin-count die, comprising the steps of :  
providing a substrate;  
forming a die attach area onto the substrate for mounting a die, the die having at least one bond pad;  
locating at least one bond island onto the substrate, and  
connecting the bond pad to the bond island with a wire bond.
2. The method of claim 1, further comprising the step of encapsulating the die.
3. The method of claim 1, further comprising forming a trace between the bond island and a package lead located on the substrate.
4. The method of claim 3, wherein the package lead is a solder ball included in a ball grid array (BGA).
5. The method of claim 3, wherein the package lead is a land included in a land grid array (LGA).
6. The method of claim 1, further comprising the step of depositing a bond finger onto the substrate.
7. The method of claim 6, further comprising the step of bonding a wire between the bond finger and the bond pad.
8. The method of claim 6, further comprising the step of forming a trace between the bond finger and a package lead.
9. The method of claim 8, wherein the package lead is a solder ball included in a ball grid array (BGA).
10. The method of claim 8, wherein the package lead is a land in a land grid array (LGA).
11. The method of claim 1, further comprising the step of forming a plurality of die attach areas on the substrate for mounting a plurality of die.
12. A method for providing an area array package, comprising the steps of:  
providing a substrate;  
attaching one or more die to the substrate;  
wire bonding the die to the substrate; and

encapsulating the wires and die on the substrate.

13. The method of claim 12, further comprising the step of coupling a plurality of solder balls to one of a plurality of bond islands located on the substrate.

14. The method of claim 13, further comprising the step of coupling a plurality of bond fingers located on the substrate to the solder balls or the bond islands.

15. A method of designing an area array package comprising the steps of:  
determining a die size and I/O count;  
laying out an in-line bond finger array;  
determining a maximum wire length for bond fingers located at the corner of a substrate;  
determining the number of bond fingers that need to be staggered to meet a maximum wire length constraint or to improve performance of the package;  
enlarging staggered bond fingers to create bond islands; and  
laying out a solder ball configuration for optimal location of the bond fingers, bond islands or vias to create ease of routing of trace placements.